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## 1.E *Properties of nuclei*

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A. O. WEISSENBERG, Institute of Theoretical and Experimental Physics, Moscow

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CONTENTS. Properties of muons. Pion decay. Negative-muon capture. Electromagnetic interactions of muons. Mesomolecular phenomena. Depolarization of muons. Muonium. Cosmic-ray muons.

## Nuclear Matter and Nuclear Reactions*

KEN KIKUCHI, Nagoya University, and MITSUJI KAWAI, Tokyo Institute of Technology.

**1967. Approx. 350 pages. Hfl. 50.— (117s.)**

This book describes various statistical aspects of complex nuclei, with an emphasis on fundamental properties of nuclei as an ensemble of nucleons. A description is given of two-body collisions in nuclear matter on the basis of a semi-classical model and without using sophisticated mathematics, and of nuclear reactions at low- and high-energies, especially on high energy reactions.
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This book presents the Proceedings of the International Conference on Magnetic Resonance and Relaxation (XIVth Colloque Ampère), which was held at Ljubljana, 6-11 September, 1966.

CONTENTS: Dynamic polarization of nuclei and double resonance. Round table "Liquid state". ENDOR. Double and acoustic resonance. Electron spin-lattice relaxation. ESR in solids. Conduction electrons and superconductivity. Acoustic resonance. Round table "NMR in semiconductors". NMR in solids. NMR in metals. Round table "H-bonding and rf spectroscopy". EPR of free radicals and triplet states. EPR. Paraelectric and paraelastic relaxation. Round table "Dielectric relaxation in solids". Round table "Deuteron resonance." Trapped free atoms and radiation damage. Theory of MR. Mossbauer scattering. New techniques. Round table "Electron-nucleus interaction in molecules". Round table "Quadrupole interactions in solids". Nuclear spin-lattice relaxation. Optical methods in rf spectroscopy. MR in ferromagnetics. Cyclotron echo. Closing address.

## Theory of Finite Groups.* Applications in Physics.

*Symmetry groups of quantum mechanical systems*

L. JANSEN and M. H. BOON, Battelle Memorial Institute, Advanced Studies Center, Geneva.

**1967. 379 pages. Hfl. 60.— (140 s.)**

The material is divided into three chapters, each dealing with a different aspect of the subject. These are, respectively, the theory of abstract finite groups, the theory of their representations and co-representations, and selected applications, principally in solid state physics. An Appendix containing a complete derivation of the finite point-groups and crystallographic point-groups is added. In the applications, the topics treated are: the irreducible representations of space-groups, double space-groups and their irreducible representations, the symmetry group of the Dirac equation, and time-reversal.

A main characteristic of this book is the deliberate separation of theory and physical applications. First an attempt is made to exhibit clearly the mathematical structure of the theory of finite groups and of their representations. Then, before dealing in detail with the applications, it is shown why and how the theory is used in the interpretation of properties of quantum mechanical systems.

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